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Framing

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zesituaties. Ook wordt er een aanzet tot een discriminatiemodel met de *multi-attribute* theorie is weliswaar geen *framing*stheorie met het discriminatiemodel. Tot het opgelost probleem beschreven. Dit van het discriminatiemodel aan de dis- terlies een speciale betekenis wordt inatiemodel verder aan deze discussie leerde assumpties moeten formuleren stuk wordt een poging ondernomen om algemeen wordt in dit hoofdstuk op onderzoek naar keuzetheorieën waarin het ale plaats inneemt, kan worden voort-

SUMMARY

The aim of this dissertation, presented in *chapter 1*, is threefold:

- (1) to give an overview of the most important developments of choice theories in which structuring of the choice situation takes a special place: the prospect theory (Kahneman & Tversky, 1979, 1984) and the discrimination model (Lindenberg, 1980, 1981, 1986, 1989a);
- (2) to determine the empirical validity of the prospect theory and the discrimination model as framing theories;
- (3) to compare the prospect theory with the discrimination model empirically on strategic elements in order to ascertain the possible advantages of the one to the other.

The growing interest in choice theories with special attention for the structuring of choice situations is based on cumulative evidence that there is more to choice than weighing the options, especially when a situation is not well structured. It seems necessary to develop an integrated choice theory of structuring and evaluation in order to explain behaviour.

Recently, two kinds of such integrated choice theories have been developed. They stem from two different theoretical traditions. The prospect theory is situated within the field of cognitive and social (or to be more precise, decision) psychology. The other theory, the discrimination model is developed within the field of rational choice sociology. Both theories can be seen as the most complete choice theory within their own fields, in which both evaluation and structuring play an important role.

In *chapter 2*, the prospect theory is presented. The theory distinguishes two different phases in the choice process: the editing phase and the evaluation phase. Editing or structuring has three different meanings in the prospect theory: (1) polishing the options by combining, segregating, canceling or simplifying (elements of) the options; (2) processing the reference point; (3) selecting a mental account.

Important components of the evaluation phase are the following assump-

tions: (a) outcomes are classified with regard to a reference point in terms of gains or losses; (b) the utility curve is S-shaped; (c) the utility curve is asymmetrical for gains and losses. With regard to subjective probabilities it is assumed that stated low probabilities will be overvalued and stated moderate or high probabilities will be undervalued. This is expressed in a so-called function of decision weights.

In *chapter 3*, the empirical merits of the different elements from the prospect theory are assessed by means of a literature survey. For the elements of the editing phase it can be concluded that the empirical tests support both the assumptions of polishing and of reference point effects. However, due to the fact that the theory is not well developed with regard to mental accounts, there is little to be said about its empirical validity on this point. All in all, it seems that the prospect theory is a theory about various situational influences rather than a theory which explains the creation and working of frames which structure the choice situation.

Regarding the elements of the evaluation phase, it can be concluded that the assumed shape of the utility curve is fairly well supported by empirical tests. What is needed is a further elaboration of the conditions under which the S-shape and the asymmetry might (not) occur. There is a dearth of empirical evidence concerning people's classification of decision outcomes in terms of gains or losses and the assumption about the probabilities.

In *chapter 4*, the discrimination model is presented. In this theory the structuring of choice situations takes a central place. A decision maker structures choice situations on the basis of one of the potential goals that he could pursue in the given situation. By linking the discrimination model to the theory of social production functions (instrumental goal chains), Lindenberg is able to provide a heuristic for finding the potential situational goals. One of the situational goals is the most salient one. It is the one that discriminates best between the options. It is therefore called the frame by means of which the decision maker structures the choice situation. The preference order of the options is itself based on the frame, or rather on the goal criterium. This criterium is the operationalization of the salient goal in a particular situation. The stronger the discrimination between the options, the stronger the situation is structured by the salient goal and the more likely that the most preferred option will be chosen.

The other situational goals recede to the background but still exert an influence on the choice behaviour via their influence on the saliency of the frame. These goals enhance the saliency if they are compatible with the frame

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and they diminish the saliency if they are not. The saliency of the frame determines the choice probability for each option. When the relevant parameters can be estimated, the prediction can be cardinal, but often only ordinal predictions are possible.

A change in the choice situation can lead to a frame-switch. This occurs if things change such that another goal structures the situation better than the previous frame. This other goal then becomes the frame. A frame-switch usually means that the preference order of the options changes too.

For the evaluation of the options, the discrimination model uses the assumptions from subjective expected utility (SEU) theory with the proviso that only the options within a frame are evaluated.

In *chapter 5*, the research questions are lined up. The first question concerns the predictive validity of the discrimination model. While the discrimination model has previously been tested as a decision model, it had so far never been tested with regard to its framing assumptions. The other two questions concern the comparison of the prospect theory with the discrimination model. Since the prospect theory -in contrast to the discrimination model- is strictly speaking no framing theory, there can be no so-called critical test. However, an alternative form of confrontation is possible. The nature of the discrimination model enables us to use assumptions from other theories, in this case from the prospect theory, as auxiliary assumptions. The crucial test therefore was whether an assumption provides more accurate predictions as a constituent of the prospect theory or of the discrimination model.

In the scope of this book two assumptions have been considered for such a test: one on the working of the reference point and the other on loss aversion. The second research question can be described as follows: does consideration of the reference point effects lead to more accurate predictions in the prospect theory or in the discrimination model? The loss aversion in the prospect theory is expressed by the asymmetrical utility curve. Here, the role of loss aversion is located in the evaluation phase. Loss aversion is expressed by the loss hypothesis in the discrimination model. Here, the role of loss aversion is located in the structuring phase. The third research question can therefore be described as follows: does consideration of loss aversion lead to more accurate predictions if it is processed in the evaluation phase (the prospect theory) or in the structuring phase (the discrimination model)?

In *chapter 6*, the first research question, concerning the predictive validity of the discrimination model, is answered. An experiment on the use of a frame and

the effect of a frame-switch was conducted. The experimental situation contained two possible frames, based on the exchange value and on the consumption value of a book. In the former, the frame is "making profit" and in the latter, the frame is "making use of". It was predicted that if the book was bought given a profit frame then the opportunity to sell it will be structured according to how appropriate the options ("selling" or "not selling") are to a profit frame. Given at least a reasonable offer, the preferred option will be to sell. If the book was bought within a "making use of" frame then the opportunity to sell it will be structured according to how appropriate the options are for the frame "making use of". In this case, the most preferred option is "not selling". However, the higher the offer, the lower the saliency of the frame "making use of". Thus, a high offer is likely to cause a frame-switch from "making use of" to "making profit". The discrimination model also predicts that changes in the offer have a direct and therefore strong effect in the profit frame, whereas they have only an indirect and therefore weak effect given a use frame. It can be concluded that the discrimination model has predictive validity, because the hypotheses were supported by the experimental results.

In *chapter 7*, the second research question, concerning the role of the reference point in the prospect theory versus the discrimination model, is answered. In an experiment on the purchase of a consumer good, the reference point was introduced in a (average) price listed in a consumer report on this good. A person could buy this good in store A (where he is now) or in another store of the same chain ten minutes walk further down the road. By manipulating the price differences in the two stores and their relation to the reference point, specific predictions were made on the basis of both theories. It turns out that the predictions of the discrimination model receive more support from the data than the predictions of the prospect theory. The reference point clearly has an effect but not the one predicted by the prospect theory.

The third research question is dealt with in *chapter 8*. It is empirically tested whether the assumption on loss aversion leads to better results when located in the structuring or in the evaluation phase. An experiment analogous to Thaler's sunk cost example (1980) was conducted. A person could decide either or not to go to a concert. In any case she had to bike 30 minutes, but in one condition the weather was good and in another it rained cats and dogs. Would she go? The interesting extra condition was the price of the ticket: 0, 10 guilders or 40 guilders. On the basis of the prospect theory (the asymmetric utility function), the difference between 0 and 10 guilders is much smaller than the difference

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Chapter 8. It is empirically tested whether the results are better when located in a situation analogous to Thaler's experiment. The results could decide either or not to choose between two options, but in one condition the results are different. Would she go? The results are: 0, 10 guilders or 40 guilders (asymmetric utility function), the difference is smaller than the difference

between 10 and 40 guilders. Thus, the choice probability (frequency) differences of going to the concert should be much larger between the 10 and 40 guilders conditions than between the 0 and 10 guilders conditions. The prediction on the basis of the discrimination model was that once the loss was big enough to cause a loss avoidance frame, marginal loss would decrease rapidly. Thus, the biggest difference in choice probability (frequency) is between 0 and 10 guilders, and only a small difference will be observed between 10 and 40 guilders conditions. These differences in prediction clearly reflect the differences between the two theories. The prospect theory is a theory with framing effects like reference points and asymmetry of the utility function. These effects work via the evaluation phase. The discrimination model is a framing theory where the effects of framing occur in the structuring phase. The results of this experiment clearly favor the location of framing effects in the structuring phase and thus corroborate the discrimination model.

In chapter 9 a summary of the empirical studies is given. Furthermore, some recent developments in the area of decision psychology about structuring a choice situation are discussed. It is also suggested that the discrimination model should be compared to a descriptive elaboration of the multi-attribute utility (MAU) theory. Although the MAU-theory is not a framing theory, there are many potential resemblances to the discrimination model. At the end an unsolved problem of the discrimination model is discussed. Considering the importance of loss aversion for this model, it needs more detailed assumptions about different kinds of loss management. A number of suggestions in this direction are made. In general, this chapter shows in various respects how one could proceed with research on choice theories in which structuring the choice situation has a central position.

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